



Space Communications and Navigation SBIR Commercialization Workshop

August 26, 2010



Welcome

The objective of this workshop is to further the commercialization of SCan sponsored SBIR technologies. By bringing together the small business technology providers with traditional large businesses, this effort will assist in the transition of SBIR technologies into either Industry sponsored or NASA funded development efforts.

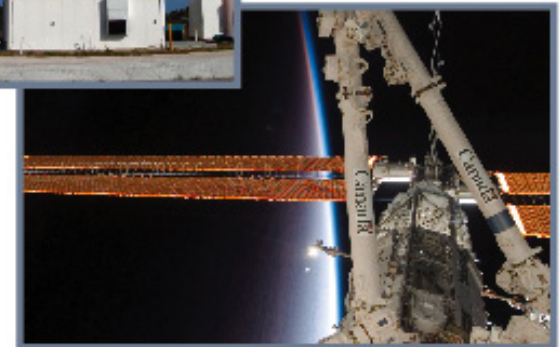
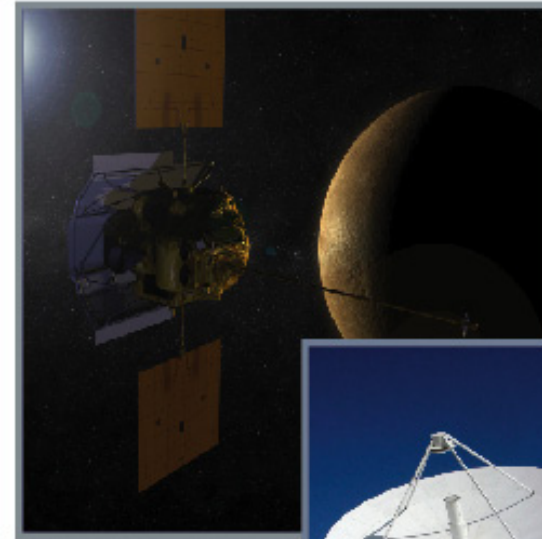
Features of the workshop include:

- overviews of projected SCan applications and technology needs
- a collaboration and partnership development forum
- one-on-one meetings
- and much more

All of which will identify potential areas of collaboration across the Agency, Other Government Agencies, and with industry.

To further provide assistance in commercializing technologies, we ask that you contact us in the event that a partnership is formed or the technology commercializes. In addition, we welcome your feedback about this event and have included a comments and suggestions notecard.

We appreciate your participation and look forward to the partnerships and opportunities that are to come.



Keynote Speaker



Glenn A. Delgado
Associate Administrator
Office of Small Business Programs

Glenn A. Delgado is the Associate Administrator of the National Aeronautics and Space Administration's (NASA) Office of Small Business Programs. As the Associate Administrator, Mr. Delgado provides executive leadership and policy direction for developing and implementing policies and initiatives throughout NASA, to ensure that all categories of small businesses are afforded opportunities to compete for agency contracts.

Prior to his appointment to NASA, Mr. Delgado served as the Acting Director of the Department of the Navy's Office of Small Business Programs. He was the Department of Navy's Mentor-Protégé Program Manager for the six years he was assigned to the Navy's Small Business Program Office. Other responsibilities included conducting statistical analyses of the Navy's Small Business Program targets, monitoring the Navy's Veteran-Owned Small Business Program, and undertaking several special projects.

Mr. Delgado also served as the Director of Small Business for the Naval Air Systems Command (NAVAIR). He has over 25

years of acquisition experience. While at NAVAIR he worked on several major weapon system programs and served as the Procuring Contracting Officer (PCO) for the A-6, EA-6B, and F/A-18 C/D aircrafts.

Mr. Delgado received his MBA from Marymount University and graduated from NAVAIR's Senior Executive Management Development Program. He is Level III certified in the Acquisition Professional field of Contracting and is a member of the Acquisition Professional Community.

Mr. Delgado was awarded two Department of the Navy Meritorious Civilian Service medals, for his innovative approaches in the acquisition process while serving as a PCO for the EA-6B aircraft and for his performance as the Director of Small Business at NAVAIR. In September 2006 Mr. Delgado was awarded the Superior Civilian Service medal for his exceptional service to the Navy Small Business Programs Office. Mr. Delgado also received the Department of the Navy Competition and Procurement Excellence Award.

Mr. Delgado served as the Chairman of the Executive Committee of the Federal Office of Small and Disadvantaged Business Utilization (OSDBU) Directors Council for fiscal year 2009.

In 2010, Mr. Delgado was awarded the NASA Outstanding Leadership Medal for his innovative practices and excellent stewardship of NASA's Small Business Programs in supporting the agency's mission, goals and objectives.

Technology Tracks

Optical Communications: Optical Telecommunications supporting the needs of space missions. Among other areas, includes technologies relating to acquisition, tracking and pointing of the optical communications beam: Small lightweight two-axis gimbals; detectors and arrays; photo-detectors and imagers; isolation platforms; laser transmitters; low-cost ground-based telescope assembly; and atmospheric compensation techniques.

RF Communications: Innovative long-range telecommunications technologies that maximize power efficiency, transmitted power density and data rate, while minimizing size, mass and power. Among other areas, includes technologies such as: ultra-small, light-weight, low-cost, low-power, modular deep-space transceivers, transponders and components; modulators; high-efficiency, low mass solid-state power amplifiers (SSPAs); utilization of nano-materials and/or other novel materials and techniques for power efficiency; amplifiers for RF front-ends; MEMS based integrated RF subsystems.

Communications Operations Software: Among others, includes automation technologies that facilitate scheduling of resources (user interfaces and algorithms for the integration of diagnostic and situational awareness tools; planning, scheduling, and resource optimization tools).

Networking Technology: Includes technologies to increase network efficiency, reduce operating costs, and increase security and resiliency.

Antenna: Technologies that support the development of antenna systems, including the following areas: phased array antennas; ground-based uplink antenna array designs; large aperture deployable antennas; novel materials for next generation antennas; smart, reconfigurable antennas; and antenna concepts for harsh environments.

Positions, Networking, and Timing (PNT): Technologies for determination of spacecraft position and velocity. Among other areas, includes technologies related to: onboard near-earth and deep-space navigation systems; technologies supporting improved TDRSS-based navigation; enabling systems to transmit and receive accurate spread spectrum signals.

Software Defined Radio (SDR): Technologies related to reconfigurable transceiver systems and associated components.

Infrastructure: This category includes not only technologies related to space communications and navigation, but also extends to other aerospace related disciplines and needs. The domains included range from operational aspects to fundamental, strategic R&D addressing deficiencies in the infrastructure to enhance performance, improve efficiency and reduce cost.

Spectrum: Tech related to power efficient usage of allotted communication bandwidth. Used primarily by deep space missions where power, not bandwidth, is the limiting factor for the comm system.

7:30	Registration			
8:30	Welcome James Stegeman, Manager, SCA N Technology Coordination & Integration			
8:40	SCa N Presentations			
9:40	Break			
Track	Optical	RF/CommOpsSoftware	Network/PNT/SDR/Spectrum	Antenna/Infrastructure
Room	A- Northwing	B- Mezzanine	C- Macon	D- Moffett
10:00	A1: Ultraflat Tip-Tilt-Piston MEMS Deformable Mirror <i>Boston Micromachines Corp.</i>	B1: 3D Microfabricated Low Loss Reconfigurable Components <i>Nuvotronics, LLC</i>	C1: Small Space Platform Enhanced Internet Protocol Stack Device <i>Broaddata Communications, Inc.</i>	D1: Conformal Space Suit Antenna <i>Applied EM, Inc.</i>
10:20	A2: The Affordable Pre-Finishing of Silicon Carbide for Optical Applications <i>Creare, Inc.</i>	B2: Low Power Universal Direct Conversion Transmit and Receive (UTR) RF Module for Software Defined Radios <i>Space Micro, Inc.</i>	C2: Open System of Agile Ground Stations <i>Espace, Inc.</i>	D2: Surface Optimization Techniques for Deployable Reflectors <i>Composite Technology Development Inc.</i>
10:40	A3: Efficient and Compact Semiconductor Laser Transmitter Modules <i>EM4, Inc.</i>	B3: Rad Hard Codec ECC Chip for High Data Rate Space Communications <i>Space Micro, Inc.</i>	C3: See-and-Avoid Collision Avoidance using ADS-B Signal and Radar Sensing <i>Intelligent Automation, Inc.</i>	D3: Microfabricated Millimeter Wave Antenna Arrays <i>Nuvotronics</i>
11:00	A4: Single Frequency Lasers for Space-Based Wind and Aerosol Lidar <i>Fibertek, Inc.</i>	B4: Fully Printed Flexible 4-Bit 2D (4x4) 16-Element Phased Array Antenna for Lunar Surface Communications <i>Omega Optics, Inc.</i>	C4: Plug-and-Play Star Sensor for Rapid Spacecraft Integration <i>Microcosm, Inc.</i>	D4: A Low Cost, Electronically Scanned Array (ESA) Antenna Technology for Aviation Hazard Detection and Avoidance <i>ThinKom Solutions, Inc.</i>
11:20	A5: Space-Qualifiable High Reliability Frequency-Stablized CW Laser Source <i>Fibertek, Inc.</i>	B5: Networked Cubesat RF Sparse Array System <i>Espace, Inc.</i>	C5: X-Ray Pulsar Based Navigation and Time Determination <i>Microcosm, Inc.</i>	D5: UHF Antenna for Cubesats/ Nanosats <i>Space Micro, Inc.</i>
11:40	A6: Extreme-Precision MEMS Segmented Deformable Mirror <i>Iris AO, Inc.</i>	B6: Programmable High-Rate Multi-Mission Receiver for Space Communications <i>Summation Research, Inc.</i>	C6: Optical Navigation System <i>Princeton Satellite Systems</i>	D6: Electronic Procedures for Medical Operations <i>S&K Aerospace</i>
12:00	Lunch Keynote Speaker Glenn Delgado Associate Administrator, Small Business Program (SBP)			

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1:50	A7: Single-Frequency Semiconductor Lasers Operating at 1.5 and 2.0 Microns <i>nLight Photonics</i>	B7: Virtual Satellite Integration Environment <i>Advatech Pacific, Inc.</i>	C7: Precision Time Protocol Based Trilateration for Planetary Navigation <i>Progeny Systems Corporation</i>	D7: Computational Modeling in Support of High Altitude Testing Facilities - <i>Combustion Research & Flow Technology</i>
2:10	A8: Wavelength Stabilized High Brightness Direct Diode Pumps for Solid State LIDARS <i>nLight Photonics</i>	B8: Procedure Integrated Development Environment (PRIDE) <i>S&K Technologies, Inc.</i>	C8: Intelligence-Based Multi-Resolution 3D Visual Modeling, Registration And Obstacle Avoidance Capabilities For Unmanned Vehicles - <i>Utopia</i>	D8: Small Sat Analysis Laboratory <i>Cybernet Systems Corporation</i>
2:30	A9: Ultra High Brightness/Low Cost Fiber Coupled Packaging <i>nLight Photonics</i>	B9: Automated Test Case Generation from Highly Reliable System Requirements Models <i>Safeware Engineering Corporation</i>	C9: A Data Abstraction Architecture for Spacecraft Autonomy <i>TRAC Labs, Inc.</i>	D9: Marine ASV Range Surveillance System <i>Emergent Space Technologies, Inc.</i>
2:50	A10: High Sensitivity Indium Phosphide Based Avalanche Photodiode Focal Plane Array <i>nLight Photonics</i>	B10: Ground Enterprise Management System <i>Emergent Space Technologies.</i>	C10: Robust CCSDS Image Data to JPEG2K Transcoding <i>Cybernet Systems Corporation</i>	D10: Closed-Loop Pure Oxygen Static Feed Fuel Cell for Lunar Missions <i>Proton Energy Systems</i>
3:10	Break			
3:30	A11: High-Power, High Efficiency 1907 nm Diode Lasers <i>nLight Photonics</i>	B11: Intelliviz - An Intelligent Telemetry Data Visualization Assistant <i>Stottler Henke Associates</i>	C11: Software Defined Multiband EVA Radio <i>Lexycom Technologies, Inc.</i>	D11: step_SATdb, An Open Source Based Satellite Design Data Architecture with API Design and Management Plugins - <i>sci_zone</i>
3:50	A12: 1.26 Single Frequency Fiber Laser <i>NP Photonics, Inc.</i>	B12: Aurora Space Communication and Mission Scheduling <i>Stottler Henke Associates, Inc</i>	C12: Radiation-Tolerant, Space Wire-Compatible Switching Fabric <i>Advanced Science & Novel Technology</i>	D12: Nano-Engineered Materials for Rapid Rechargeable Space Rated Advanced Li-Ion Batteries <i>Yardney Technical Products, Inc.</i>
4:10	A13: High SBS-Threshold Er/Yb Co-Doped Phosphate Glass Fiber Amplifiers for High Power, Sub-nS Pulsed, Narrow Linewidth, All Fiber-Based Laser Transmitter <i>NP Photonics, Inc</i>	B13: Enhancing NASA's Procedure Representation language to Support Planning Operations <i>TRAC Labs, Inc.</i>	C13: Efficient Techniques for Formal Verification of PowerPC 750 Executables <i>Aries Design Automation, LLC</i>	D13: Advanced Materials and Chemistries for Electrochemical Energy Storage Devices-Development of High-Voltage Cathode Material <i>Yardney Technical Products, Inc.</i>
4:30	A14: RAP Figuring Slumped Mirrors to Remove Mid-Spatial Frequency Errors <i>RAPT Industries</i>	B14: Intelligent Agents for Scheduling Space Communications <i>TRAC Labs, Inc.</i>	C14: Reconfigurable, Cognitive Software Defined Radio <i>Intelligent Automation, Inc.</i>	D14: Lithium Ion Battery and Ultracapacitors Hybrid for Satellite Power <i>Yardney Technical Products, Inc.</i>
4:50	A15: Wireless Integrated Microelectronic Vacuum Sensor System <i>Invocon Incorporated</i>	B15: Electrochemical Capacitor Development <i>Eltron Research & Development, Inc.</i>	C15: Radiation hard, high performance space computer/payload processor <i>Space Micro, Inc.</i>	D15: Thermal Control Nano-Sat <i>Eclipse Energy Systems, Inc.</i>
5:10	Closing			
5:30	Adjourn			

Contact Information

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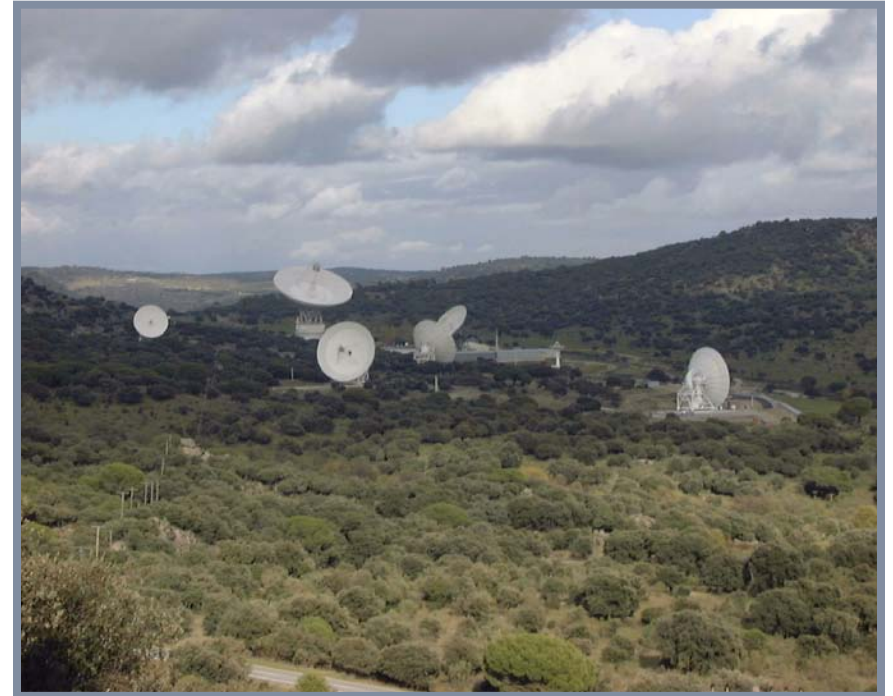
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